The value of herring spawning events to spring conditioning of scoters in the Puget Sound Georgia Basin

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Like many sea ducks, scoters have declined throughout their ranges, including dramatic declines in the Puget Sound Georgia Basin (PSGB). A potential limiting factor is the availability of herring spawn in late winter and spring. Scoters and other marine birds congregate in dramatic numbers to consume spawn along much of the North American Pacific Coast. However, spawning stocks in the PSGB, an important wintering and staging area for scoters, have declined substantially over the past several decades. To determine whether spawn is critical to spring conditioning of scoters, we address two questions: (1) How does variation in spawning activity affect acquisition of fat by scoters?; and (2) In years when spawn is less available, are alternative foods in key winter foraging sites adequate to meet the needs of scoters? Preliminary tissue analyses (stable isotopes, fatty acids) indicate that when spawn is available, scoters consume little else. Further, our captures of over 850 scoters in 2003-04 indicate spawn availability and scoter fattening rates are correlated. Preliminary data from 2003-04 indicate that in some winter foraging sites, prey alternative to spawn decline seasonally. Thus, spawn is likely important to spring conditioning of scoters, although multiple factors suggest that Surf Scoters may be more sensitive to variation in spawning activity than White-winged Scoters.